PATENT ABSTRACTS OF JAPAN

(11)Publication number:

2003-167246

(43) Date of publication of application: 13.06.2003

(51)Int.Cl.

G02F 1/1335 G02B 5/30

H01L 21/3065

(21)Application number : 2001-370146

(71)Applicant : SEIKO EPSON CORP

(22)Date of filing:

04.12.2001

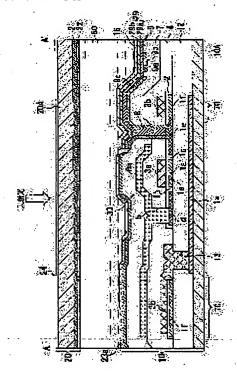
(72)Inventor: TAKEUCHI TETSUHIKO

(54) SUBSTRATE FOR LIQUID CRYSTAL DEVICE AND METHOD FOR MANUFACTURING THE SAME, LIQUID CRYSTAL DEVICE, PROJECTION TYPE DISPLAY DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a liquid crystal device which incorporates a polarizer with a high extinction ratio and has high durability.

SOLUTION: In the liquid crystal device, a liquid crystal layer 50 is held between a pair of substrates. A pixel electrode 9 comprising a structure birefringence body having a plurality of light reflection bodies 9a arranged in a stripe shape at a pitch smaller than light wavelength incident on the liquid crystal layer 50 and a gas layer 9b formed in a space between two adjacent light reflection bodies, is formed on a TFT-arrayed substrate 10. The structure birefringence body functions as a pixel electrode and functions as a polarizer at the side of the TFT-arrayed substrate at the same time. This constitution eliminates an external light absorption type polarizer used conventionally, and improves the durability.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the



examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office

File 347: JAPIO Nov 1976-2005/Aug (Updated 051205) (c) 2005 JPO & JAPIO

Set Items Description

? e pn=jp 2003167246

```
Ref
     Items Index-term
E1
         1 PN=JP 2003167244
         1 PN=JP 2003167245
         1 *PN=JP 2003167246
E3 ·
         1 PN=JP 2003167247
         1 PN=JP 2003167248
         1 PN=JP 2003167249
E6
E7
         1 PN=JP 2003167250
         .1 PN=JP 2003167251
E8
         1. PN=JP 2003167252
E9
E10
         1 PN=JP 2003167253
         1 PN=JP 2003167254
E11
E12
         1 PN=JP 2003167255
```

Enter P or PAGE for more

? s e3

1 PN='JP 2003167246'

? t 1/9/1

S1

1/9/1

DIALOG(R) File 347: JAPIO

(c) 2005 JPO & JAPIO. All rts. reserv.

07673384 **Image.available**

SUBSTRATE FOR LIQUID CRYSTAL DEVICE AND METHOD FOR MANUFACTURING THE SAME, LIQUID CRYSTAL DEVICE, PROJECTION TYPE DISPLAY DEVICE

PUB. NO.: 2003-167246 [JP 2003167246 A]

PUBLISHED: June 13, 2003 (20030613)

INVENTOR(s): TAKEUCHI TETSUHIKO APPLICANT(s): SEIKO EPSON CORP

APPL. NO.: 2001-370146 [JP 2001370146]

FILED: December 04, 2001 (20011204)

INTL CLASS: G02F-001/1335; G02B-005/30; G02F-001/1333; G02F-001/1343;

H01L-021/3065

ABSTRACT

PROBLEM TO BE SOLVED: To provide a liquid crystal device which incorporates a polarizer with a high extinction ratio and has high durability.

SOLUTION: In the liquid crystal device, a liquid crystal layer 50 is held between a pair of substrates. A pixel electrode 9 comprising a structure birefringence body having a plurality of light reflection bodies 9a arranged in a stripe shape at a pitch smaller than light wavelength incident on the liquid crystal layer 50 and a gas layer 9b formed in a space between two adjacent light reflection bodies, is formed on a TFT-arrayed substrate 10. The structure birefringence body functions as a pixel electrode and functions as a polarizer at the side of the TFT-arrayed substrate at the same time. This constitution eliminates an external light absorption type polarizer used conventionally, and improves the durability